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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/526,602	03/16/2000	Yasuharu Suda	54490-Z/JPW/DVD	1592

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04/17/2002

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EXAMINER

RODEE, CHRISTOPHER D

ART UNIT	PAPER NUMBER
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1753

12

DATE MAILED: 04/17/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/526,602

Applicant(s)

SUDA ET AL.

Examiner

Christopher D RoDee

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 22 February 2002.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 21-27 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 21-27 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Claim Objections

Claim 22 is objected to because of the following informalities: the Markush group in claim 22 mixes commas and semicolons for separating species. The claim should be consistent in its use of these punctuation marks. Appropriate correction is required.

Claim Rejections - 35 USC § 112

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Claims 21-27 are rejected under 35 U.S.C. 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. In response to a rejection in the last Office action the claims have been amended to specify that heating of the recited resin and solvent occurs "while performing stirring after dispersing and mixing said thermoplastic resin in said solvent, to dissolve said resin in said solvent; ...". Applicants assert that basis for this amendment is found in Example 1. While the example does disclose a step of heating while stirring, this example only discloses this combination of steps when the inorganic particles, mixed solvent, colorant, and resin are present together during the heating and stirring. There is no disclosure of heating and stirring the resin without the inorganic particles as permitted by the instant claims.

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Claims 21-27 remain rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

The claims, even as amended, are indefinite because it remains unclear if the dispersing and mixing steps are actually required steps in the process. The process only recites these steps in reference to the timing of the heating while performing stirring step, but they are not positively recited as occurring in the process. Clarification in the claims is again suggested.

Claim Rejections - 35 USC § 103

Claims 21-24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hou in US Patent 5,358,822.

This rejection was set forth in the last Office action. Briefly, Hou discloses a process of making a liquid toner in the process of Example 2. In the process a thermoplastic polymer (see patent claim 1) and a pigment (e.g., carbon black- an inorganic pigment) are placed in a solvent that is a good solvent for the polymer at high temperatures and a poor solvent at lower temperatures. The polymer and pigment are sonified (i.e., mixed) and heated to a temperature where the polymer is dissolved and then cooled so the polymer precipitates with the pigment. The precipitated polymer particles are removed from the solvent and then redispersed in ISOPAR and mixed with cupric naphthenate along with a steric stabilizer (apparently a dispersant).

Applicants discuss the rejection in the response and then identify reasons why they believe Hou does not suggest the claimed invention. Applicants are understood to state that, although the concept of SP values with respect to solvents or a resin in a solvent are known in

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the art, the reference fails to disclose that the particle diameter can be determined by choice of SP values of the resin and the solvent.

The Examiner has carefully considered these remarks in light of the amendments to the claims but is not persuaded that the art fails to suggest the claimed invention. Hou discloses an ethanol solvent and a thermoplastic resin that are mixed and heated in the presence of an inorganic fine particle (i.e., carbon black pigment). The resin and the solvent each have an SP value. Applicants are not understood to have asserted otherwise. In the process of Hou the inherent SP values of the resin and the solvent would contribute to the final characteristics of the polymer-encapsulated pigment toner particles recovered after the mixture was cooled. It is not necessary for the reference to teach that the particle size of the toner particle can be controlled by choice of SP values because in the process each of the resin and the solvent have an SP value that inherently contributes to the characteristics of the recovered particles. See last Office action, p. 4, lines 1-10.

If applicants are taking the position that the limitation of the "SP value of the solvent being adjusted" refers to a manipulative step during the heating step they are asked to clarify in the response. This step is understood to refer to the characteristics of the solvent combined with the resin and that the solvent SP is not changed other than any inherent change that could occur during the heating step. Clarification by applicants may prove helpful.

Applicants state in the response (p. 7) that the step of forming resin particles and the step of combining fine resin particles and inorganic fine particles are executed not separately from each other but simultaneously. The instant claims do not require simultaneous events as stated. In fact, in Example 1 of the instant specification the fine resin particles and the inorganic fine particles are mixed together before any steps of particle formation. It is unclear how these remarks relate to the instant claims and specification. Clarification is requested.

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In summary, the resin and solvent in Hou must inherently have a solubility parameter. The size of the precipitated particles for the liquid toner in Hou would be a result of the solubility parameters of the solvent and resin and other process conditions, such as heating, mixing, and cooling characteristics. The skilled artisan would understand that the process variables, including SP, control the size, shape, and other characteristics of the particles.

The rejection is proper and is maintained.

Claims 25-27 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hou in US Patent 5,358,822 as applied to claims 21-24 above, and further in view of Sato *et al.* in US Patent 3,808,026.

Applicants traverse this rejection for essentially the same reasons as given above because they do not believe that Hou properly suggests the claimed invention. The rejection is maintained because Sato's white pigment as the colorant in Hou's toner would have been obvious to provide development of the image background (i.e., surface of the paper - col. 3, l. 9-13). Development of the background area on the photoreceptors permits neutralization of background charges and allows clear images to be formed. There is ample motivation for the combination of Sato's particles into Hou's process and toner.

Hou suggests the characteristics of heating while performing stirring of the resin and inorganic particles in a solvent, each of the resin and the solvent in Hou having an SP that contributes to the properties of the produced toner.

The rejection is maintained.

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Christopher D RoDee whose telephone number is 703 308-2465. The examiner can normally be reached on most weekdays from 6 to 4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nam Nguyen can be reached on 703 308-3322. The fax phone numbers for the organization where this application or proceeding is assigned are 703 872-9310 for regular communications and 703 872-9311 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703 308-0661.

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The Art Unit of this application will change to 1756 on 21 April 2002. Correspondence after this date should reference the new art unit to expedite processing.


CHRISTOPHER RODEE
PRIMARY EXAMINER

cdr
April 11, 2002